PATENT CLAIMS

1. Process for adapting and automated safe distance following guidance of an equipped vehicle (10) to a traffic user (20) merging into the lane (B) of the equipped vehicle (10),

in which objects and traffic users (20) are detected ahead of the own vehicle within a sensed area (12) originating from a spacing sensor,

in which, in an evaluation unit, the positions and speeds of the detected objects and traffic users (20) are determined, in order to produce, beginning from this computed data, control parameters in order to selectively influence servo means for acceleration or braking of the equipped vehicle,

thereby characterized, that in the production of the control parameters, in addition to the data of the objects and traffic users (20) determined in the evaluation unit, also information from a navigation system or another data bank describing the ahead-lying layout of the road is accessed,

and that then, when from the information regarding the additional layout of the road, it is determined that at least one traffic user exercising conventional driving behavior will change lane to the lane (B) of the equipped vehicle (10), the control parameters for the servo means acting upon the own vehicle (10) are produced in such a manner, that the behavior of the own vehicle (10) is adapted to the at least one detected traffic user (20) according to its speed and/or position.

2. Process according to Claim 1, thereby characterized, that the detection of objects and traffic users (20) occurs by the spacing sensor using millimeter waive length radar, lidar or camera sensors.

3. Process according to one of the proceeding claims, thereby characterized, that information describing the ahead lying layout of the road is read from ADAS-Map (Advanced

Driver Assistance System), which information includes, in addition to information necessary for vehicle navigation, also supplementally information regarding the number of lanes (A), (B) and/or markers with respect to on ramps and off ramps (C) to highways or major roads.

4. Process according to one of the proceeding claims, thereby characterized, that in the cases in which the speed of the at least one detected traffic user (20) is exceeded by the speed of the equipped vehicle (10), the driving behavior of the equipped vehicle is adapted in such a manner to the traffic user (20) that, by suitable adjusting of the controlled parameters, the speed of the own vehicle is reduced to the realm of the speed of the traffic user (20).

5. Process according to Claim 4, thereby characterized, that in those cases in which the spacing of the equipped vehicle (10) to the at least one detected traffic participant (20) is large, the reduction in speed of the equipped vehicle (10) occurs with moderation.

6. Process according to Claim 4, thereby characterized, that in the cases in which the separation of the own vehicle (10) to the at least one detected traffic user (20) is relatively small, the traffic user (20) however following conventional driving behavior would be expected to immediately carry out a lane change, the reduction in the speed of the own vehicle (10) occurs rapidly.

7. Process according to Claim 4, thereby characterized, that in the cases, in which the separation of the own vehicle (10) to the at least one detected traffic user (20) is relatively small, the traffic user (20) however following conventional driving behavior would be expected to immediately carry out a lane change, the equipped vehicle (10) is programmed to carry out a lane change to an adjacent lane (A) opposite to the detected traffic user (20).

8. Process according to Claim 7, thereby characterized, that prior to the lane change to adjacent lane (A) opposite to the detected traffic user (20), this lane (A) is examined with a sensor system for monitoring adjacent lanes, in particular a blind angle monitoring system, with regarding to whether a safe change in lane of the equipped vehicle (10) to this lane (A) is possible.

9. Process according to Claim 4, thereby characterized, that in the cases, in which the distance of the equipped vehicle (10) to the at least one detected traffic user (20) is relatively

small, yet still sufficient to allow time for a lane change in conventional driving behavior, the speed of the own vehicle (10) is not reduced.

10. Process according to Claim 9, thereby characterized, that, traffic situations and regulations permitting, the speed of the equipped vehicle (10) is moderately increased.

11. Process according to Claim 10, thereby characterized, that the speed of the equipped vehicle (10), after passing the at least one detected traffic user (20), is again reduced to resume the speed prior to the increasing of the speed.

12. Device for adapting an automatic safe following guidance of an equipped vehicle (10) to traffic users (20) merging to this lane (B),

including a spacing sensor for detecting objects and traffic users (20) located ahead of the equipped vehicle (10),

further including an evaluation unit for determining the position and relative speed of the detected objects and traffic users (20), and

a means for acting, beginning with the determined position and speed, on a servo means for accelerating or braking the equipped vehicle (10),

thereby characterized, that the device is in communication with a navigation system or another data bank, in order to access additional information describing the layout of the road for producing control parameters, in addition to the evaluation unit determined data of the object and the traffic users (20).

13. Device according to Claim 12, thereby characterized, that the spacing sensor is a millimeter waive length radar, lidar or camera sensor.

14. Device according to one of the proceeding claims, thereby characterized, that the data bank, from which supplemental information describing the ahead lying layout of the road is read, includes an ADAS-Map.

15. Device according to one of the proceeding claims, thereby characterized, that the device is in communication with a sensor system for monitoring an adjacent lane, in particular a blind angle monitoring system, in order, prior to a change in lane of the equipped vehicle (10) to a adjacent lane (A) opposite to the detected traffic user (20), this adjacent lane is examined to the extent as to whether a safe change in that direction is possible.

16. Use of the process or the device according to one of the proceeding claims, for merging in to the lane traveled by the equipped vehicle (10) by vehicles from a lane adjacent, in which other traffic users are located,

wherein for preparing for the merging, depending upon whether the vehicle is to merge ahead of or behind a particular traffic user, the speed of the equipped vehicle is either increased above or reduced below the speed of the particular traffic user by appropriate selection of the control parameters, using the servo means for acceleration or braking of the own vehicle.